Appendix B: Error Messages

The following is a partial list of THERM warning and error messages, their probable causes, and possible solutions. Updated information on error messages can be found at http://windows.lbl.gov/software/software.html.

Array overflow in Mesher. Try reducing the Quad Tree Mesh Parameter in Therm File Options.

Cause: A very detailed mesh can exceed the limits of the automatic mesh generator.

Solution: Reduce the Quad Tree Mesh Parameter value under **Options/Therm File Options**. If you are getting this error message because you increased the mesh parameter in response to another message telling you to "simplify the geometry or increase the mesh parameter", you should reduce the Quad Tree Mesh Parameter and then simplify the geometry. Often very minor simplifications in the geometry in areas of fine detail will result in the mesher being able to generate a mesh.

Calc Manager is Paused. The file won't be run until you start it. Do you want to start it?

Cause: The Calc Manager has been set to pause the file on which you are now trying to do a calculation.

Solution: Unpause it in the Calc Manager, or click on the **Yes** button to this message. If you do not want the file to be calculated, click on either the **No** or **Cancel** buttons.

Calculation not successful

Cause: This error message can have many possible causes.

Solution: Read the calculation log by going to the **Calc Manager** option of the Calc menu.

Can't delete a point from a 3-sided polygon.

Cause: Deleting a point from a 3-sided polygon will create an invalid polygon.

Solution: This error is often caused by the cursor sticking to a different point than you intended. Try zooming in on the area of interest.

Can't find glass library (glass.dat) in the glazing system directory. All glass surface emittances will default to 0.84.

Cause: Emittance data is read from the WINDOW4 library file "glass.dat". If THERM does not find this file, it will default all glass emittances to 0.84.

Solution: Copy the file glass.dat to the same folder as the glazing system library file glzsys.w4. You only need to do this if you are using the condensation index or the radiation enclosure model.

Can't insert a point on top of another point. Try zooming in.

Cause: You are trying to insert a point that is too close to an adjoining point (within 0.01 mm).

Solution: Use the Zoom feature (click the right mouse button) one or more times to enlarge the area enough that you can insert the new point at a distance greater than 0.01 mm from the adjacent point.

Condensation Index Model currently does not support user defined gas types. Glazing Cavity has a cavity with gas type

Cause: If you import a glazing system from WINDOW that has a user-defined gas (i.e. something other than air, argon or krypton), you will not be able to use the Condensation Index Model with this version of THERM.

Error: Autofill created an invalid polygon.

Cause: In rare cases, the autofill feature can't resolve the geometry and will not be able to fill the cavity.

Solution: Either draw the polygon by hand or try resolving any fine detail in the surrounding polygons. This often occurs when there are small gaps in a cavity. Occasionally it occurs when there is detail less than 0.01 mm apart.

Error: There is a radiation enclosure that does not have any boundary conditions on the model with enclosure radiation enabled. To change this, the boundary conditions must be changed to "comprehensive" and the enclosure radiation model must be checked. Enclosure Polygon ID=

Cause: Every boundary condition that faces a radiation enclosure must have the enclosure radiation model enabled.

Solution: Edit the boundary condition, make sure the **Comprehensive** model is selected and check the **Radiation Enclosure Model** check box. The boundary conditions that come in with an imported glazing system from WINDOW are not compatible with the radiation enclosure model.

Invalid polygon found, stopping simulation. Polygon ID=

Cause: An invalid polygon has been found by THERM, preventing the calculation from continuing. The error message will list the polygon ID # of the offending polygon.

Solution: Using the **Edit/Select Special** menu choice, you can locate the offending polygon and either correct the problem, or delete the polygon and redraw it. Invalid polygons are usually created as a result of the point merging algorithms in THERM. Automatic adjustment of bad points can

result in invalid polygons. The most common invalid polygon has a zero area extension. These extension have two points on top of one another. In order to fix this kind of invalid polygon you must delete one of these points as well as the end of the extension.

Library names must be unique.

Cause: When defining a new library entry, this error message indicates that you have used a name that is already in use.

Solution: Use a different name for the new entry that isn't already being used.

Maximum number of cavities (9) is exceeded

Cause: A cross-section geometry cannot have more than 9 glazing cavities.

Solution: Reduce the number of glazing cavities in the cross section, possibly by combining adjacent cavities.

Mesh generation error. Try simplifying the geometry near point (or try increasing Quad Tree Mesh Parameter in THERM File Options.

Cause: The finite element mesh generator has encountered problems generating the mesh in the geometry because the cross section contains too much detail.

Solution: Simplify the geometry by reducing the number of points in polygons or combining similar polygons. In addition, you can try increasing the value of the Quad Tree Mesh Parameter in the Options/Therm File Options menu. The maximum value allowed is 11.

Model geometry and Boundary Conditions need to be properly defined before a calculation can be performed.

Cause: If boundary conditions have not been defined for a geometry, you will get this error message when trying to do a calculation. This can occur if you do not regenerate the boundary condition after fixing voids and overlaps.

Solution: Generate the boundary conditions before doing a calculation.

Overlapping regions are not allowed!

Cause: THERM cannot simulate a cross section that has polygons which overlap adjacent polygons. As you are drawing, if the program detects that you are about to generate a polygon which overlaps another polygon, it will display this error message.

Solution: Do not try to draw a polygon which overlaps another polygon. It may be necessary to zoom in on the area you are drawing in order to avoid potential overlaps. Sometimes the algorithm for checking for overlaps thinks you are creating an overlap when you really are not. If you are getting this message you can turn off the checking under **Options/Preferences/Drawing**

Options/Always check for overlapping polygons. In general it is good practice to keep this feature turned on.

Please enter a positive number for the step size, or choose absolute coordinate mode.

Cause: You can only enter positive numbers in the **Step Size** dialog box, if you are entering **Relative** values.

Solution: Enter a positive number and use the arrow keys in the direction opposite to the one you want to go in, or change the **Step Size** setting to **Absolute** in order to enter a negative number.

Points of a polygon cannot overlap. Try Zooming in for detailed work.

Cause: You are working at too low of a zoom level and the point you are trying to insert is snapping back to an existing point. This would create two points on top of each other and THERM does not allow this.

Solution: Zoom in, effectively reducing the sticky distance. This can cause a problem if you are working with WINDOWS 95 which has limited zooming abilities. If this is the case try drawing everything around this polygon and create the polygon using the fill void feature.

Polygon already exists at selected point

Cause: You are trying to use the fill void feature and the cavity is already filled.

Solution: This can happen when you are filling cavities with the material colors turned off so turn on the colors and you will be able to tell if the cavity is filled. It can also happen if you are zoomed out and the cursor in not located within the cavity that you want to fill, in which case try zooming in.

Solution failed to converge. Try changing relaxation parameter or decrease convergence tolerance.

Cause: The comprehensive radiation model is an iterative solution and the convergence criterion is not being met.

Solution: Make the convergence criterion **OPTIONS/Preferences/ Simulation** larger. The maximum allowable value in 0.01.

The Glazing system can't be inserted because it overlaps with existing materials. Try repositioning the Glazing System Locator or adjacent materials.

Cause: THERM will not allow polygons to overlap one another. This error message is issued when the glazing system you are trying to insert will overlap with other polygons in the cross section.

Solution: One possible solution is to move the Locator, which determines where the lower left corner of the glazing system will be inserted. You may

need to Zoom in to the drawing in order to see accurately where the Locator is currently positioned. If changing the Locator position does not solve the problem, it may be necessary to delete some polygons adjacent to the glazing system (such as those representing the glazing tape), insert the glazing system, and then redraw the polygons once the glazing system is in place. (Glazing tape is specified in its undeformed state, but it will deform when a real glazing system is inserted into a window. Drawing the polygons representing the glazing tape in their compressed state is a more realistic model.) Note that THERM allows you to specify the width of the glazing system to four decimal points in IP units but WINDOW only specifies it to three, so measuring the glazing cavities in SI units (reported to three decimal places in THERM) may help the glazing system fit. Since the match has to be exact this difference can cause the glazing system not to fit. You can try pasting the glazing system outside of the cross section and then cutting and pasting it into location. This may cause overlapping regions but they can be corrected.

There are materials that lie outside of the Boundary Conditions

Cause: This is caused by noncontiguous polygons.

Solution: THERM can only analyze one continuous cross section at a time. You will have to delete any other polygons. The major cause for this error is very small cracks in the model that are open to the environment.

There are no Ufactor tags defined. Simulate anyway?

Cause: This is a warning based on the assumption that most people are going to be using THERM to determine U-factors

Solution: If you want to obtain U-factor calculations from THERM, you must define the U-factor Surface Tags when defining the cross-section boundary conditions. If you do not, you can ignore this message.

This file is currently being simulated. The changes you have made may effect the results, so the calculation is being stopped.

Cause: If you make a change to a file that is currently being calculated, the program will issue this error message.

Solution: Cancel the calculation (using the Calc Manager), save the changes to the file, and redo that calculation.

Trouble loading library file.

Cause: When loading one of the libraries (material.lib, bc.lib, or ufactor.lib) the program either couldn't find the file or couldn't read it.

Solution: Make sure all the libraries are in the THERM working directory. If they are there, they may be corrupted. You can reinstall the default libraries from the installation diskettes.

Trouble reading Bitmap file.

Cause: If THERM can not read a bitmap file that you are bringing in as an underlay, this message will be displayed, due to a file format incompatibility.

Solution: Try generating the bitmap file with another drawing program.

Trouble reading DXF file.

Cause: If THERM can not read a DXF file that you are bringing in as an underlay, this message will be displayed, due to a file format incompatibility.

Solution: Try generating the DXF file with another drawing program, or in a different manner.

Trouble with Auto BC Generation near point:

Cause: Very fine detail that the program cannot resolve.

Solution: Make minor adjustments to the geometry to avoid details less than 0.01 mm.

Trouble with Auto Fill near point:

Cause: Very fine detail that the program cannot resolve.

Solution: Make minor adjustments to the geometry to avoid details less than 0.01 mm.

Trouble with geometry at segment

Cause: Very fine detail that the program cannot resolve.

Solution: Make minor adjustments to the geometry to avoid details less than 0.01 mm.

U-factors are not valid for exporting to Window 4. Check the U-factor tags and U-factors.

Cause: U-factors other than Frame and Edge are included in the model

Solution: Only Frame and Edge U-factors can be imported into WINDOW.

Unable to fix some trouble with detailed geometry. The problem areas are circled in red.

Cause: Automatic adjustment of bad points failed.

Solution: Make sure to save the file before you perform the automatic adjustment of points because this command cannot be undone. If you have saved the file, when you see this error message redo the boundary conditions but don't adjust any bad points. If you have not saved the file you will have to fix the geometry that THERM has created.

Warning: The maximum number of meshing iterations reached before the error target was reached.

Cause: Too low of a percent error energy norm target value for the number of iterations specified.

Solution: Check the results of interest to make sure that the level of the percent error energy norm you have specified is required. If it is, increase the number of iterations. You can also reduce the number of iterations required by starting with a finer mesh (higher mesh control parameter).

Warning: Can't find matching glass types for all glazing systems in the glass.dat library. Emittances for these glass types will be defaulted.

Cause: Emittance data is read from the WINDOW4 library file "glass.dat". If THERM can not find all of the glazings in a glazing system in this library, it will default all glass emittances to 0.84.

Solution: Add the glazing layer to the glass library within the WINDOW program. You only need to do this if you are using the condensation index or the radiation enclosure model.

Warning: There are Materials and/or Boundary Conditions used by this file that were not stored in the file and are not in the Libraries. These will display with ""??"" after the name when they are selected and you need to redefine them before simulating.

Cause: This sometimes occurs when you are importing files into THERM that were created in previous versions.

Solution: Unfortunately you will have to redefine the material properties and boundary conditions.

You can't close a file while calculations are being performed. Do you want to stop the calculations and close the file?

Cause: You have tried to close a file that is currently being simulated.

Solution: Wait until the calculation has finished to close the file, or allow the program to stop the calculation and close the file.

You need to calculate results first.

Cause: You have tried to view the U-factors for a cross section without simulation results.

Solution: Calculate the results before trying to view the U-factors. The **Calculation/Display Results** is grayed out if the results have not been calculated for a model. If a file has been saved without the results (the **Save Simulation Results in THM Files** box is *not* checked in the **Options/Preferences** menu choice, **Simulation** tab), the **Calculation/Display**

Options menu will be grayed out, but the **Calculation/Show U-factors** will be available.

You need to have at least two non-adiabatic boundary conditions to do a simulation. Check your boundary condition definitions.

Cause: The cross section does not have two non-adiabatic boundary conditions.

Solution: The default boundary condition for all boundary segments, except glazing systems imported from WINDOW4, is Adiabatic. You need to assign realistic boundary conditions to the boundary segments before the program can proceed with the calculation.

You need to select a Polygon before doing this

Cause: Trying to add a point to an unselected polygon

Solution: Select the polygon before trying to add a point. A selected polygon has squares on the vertices.